

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/762,799	STENFORT, ROSS	
	<b>Examiner</b>	<b>Art Unit</b>	
	Saqib J. Siddiqui	2117	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/08/2007.
2. ☒ The allowed claim(s) is/are 1-18, 20-23, 25 and 26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

### **DETAILED ACTION**

Applicant's response was received and entered June 08, 2007.

- Claims 1-18, 20-23 and 25-26 are allowed.

#### ***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance:

The present invention includes an apparatus and method for performing a boundary scan test of a device comprising: a boundary scan cell defined by an asynchronous flip-flop having a data input connected to receive a data signal from the device during normal operation of the device, a data output connected to an input/output pin of the device, a system clock input connected to receive a system clock signal from the device during normal operation of the device, a set input, and a reset input; and a test controller having a test clock input, a first test data output, and a second test data output, the first test data output being connected to the set input of the asynchronous flip-flop, the second test data output being connected to the reset input of the asynchronous flip-flop, the test controller being configured to control the asynchronous flip-flop through the set input and the reset input during test mode operation of the boundary scan cell. Specifically the present invention defines the exact connections of the asynchronous flip-flop including the set input, reset input, data in, data out, the clock and with respect to claims 1, 12, 15 and 18. Further, claims 12, 15 and 18 of the present invention excludes any multiplexing apparatus or means in between the controller and the asynchronous flip-flop.

The prior arts of record do not teach the method and apparatus as defined in claims 1, 12, 15 and 18. With respect to AAPA, Qureshi and Peeters et al. they include

multiplexing means between the test controller and the asynchronous flip-flop. Further, AAPA does not teach the use of a set and reset flip-flop.

Qureshi and Peeters teaches a set reset scan cell but they do not teach a test controller and the asynchronous flip flop in Qureshi has only one connection leading into the set/reset port as opposed to two separate test data connections as taught in claims 1, 12, 15 and 18. Further, Peeters does not teach the set reset terminals to be connected to a first test data output and second test data output terminal of a controller. Peeters does not teach a test controller which is an explicitly recited feature of claims 1, 12, 15 and 18.

With respect to Wang et al, Wang teaches a scan test, wherein the apparatus receives a global scan enable signal and generates multiple local scan enable signals with respect to various clocks in order to scan test circuits operating in different time domains. However, Wang et al. does not teach performing a boundary scan test. Further, the asynchronous flip-flop taught by Wang et al. (Figure 8) does not receive any test data input, nor does it receive a clock signals (both these connections are grounded). Also, the signals received at the set and resets ports of the asynchronous flip-flop are not test data output signals from a controller but they are shift and update signals.

Hence, the prior arts of record fail to anticipate or render obvious the claimed inventions. Thus claims 1-18, 20-23 and 25-26 are allowable over the prior arts of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

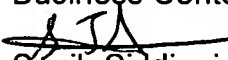
Art Unit: 2117

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saqib J. Siddiqui whose telephone number is (571) 272-6553. The examiner can normally be reached on 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Saqib Siddiqui  
Art Unit 2138  
07/18/2007

/Cynthia Britt/  
Primary Examiner  
Art Unit 2117 7/18/07